NTT Press Releases

(Press Release)

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Nippon Telegraph and Telephone Corporation
Alcatel-Lucent Japan Ltd.
Fujitsu Limited

Server Platform Technology that supports reliability and scalability functions for service applications approved as a Proof of Concept by ETSI

~ NTT, Alcatel-Lucent Japan, Fujitsu demonstrate the technology in Okinawa, May 2014 ~

Nippon Telegraph and Telephone Corporation (Chiyoda-ku, Tokyo, President and CEO: Hiroo Unoura, hereafter: NTT), Alcatel-Lucent Japan Ltd. (Shinagawa-ku, Tokyo, President: Nicolas Bouverot, hereafter: Alcatel-Lucent Japan), and Fujitsu Limited (Minato-ku, Tokyo, President: Masami Yamamoto, hereafter: Fujitsu), jointly proposed a demonstration of VNPaaS (Virtual Network Platform as a Service) to ETSI[*1] NFV ISG[*2], which has just been approved as a Proof of Concept.
The demonstration, which is one of the outcomes from the collaborative study[*3], will be presented at the Bankoku Shinryokan Resort MICE Facility in Okinawa on May 14, 2014.

Background

As seen in the activities of ETSI NFV ISG, which is designed to take advantage of virtualisation technologies in the telecom field, more and more traditional network functions are being realized through software on general-purpose hardware. The progress of Network Functions Virtualisation enables more flexible and faster development and configuration changes of the network.
However, virtualising large-scale telecom systems increases the complexity of service applications because of the increase in the number of functions to be realized. NTT, Alcatel-Lucent Japan, and Fujitsu solve this problem by developing server architecture[*4] as a platform[*5] of telecom networks with reliability, scalability, and management that network systems require. (Figure 1)

Proposed Proof of Concept

The Virtual Network Platform as a Service (VNPaaS), which is one of the use cases defined by ETSI NFV ISG, is a service that offers to the service providers a platform that has the framework for developing, deploying and administering applications on the virtualised network.
In the proposed Proof of Concept, we will demonstrate a certain virtual network function on the platform by which reliability and scalability functions that network systems require are realized with distributed hardware resources in different areas. (Figure 2)
Conventionally, reliability and scalability functions should be realized by applications. As advances are made in virtual network construction technology, the software scale of each service application will increase due to the numerous functions that the software will have in the future. However, the proposed platform technology supports reliability and scalability functions for each service application and enables faster development of service applications. Moreover, the platform that consists of distributed hardware resources enables faster system recovery, for instance, in the event of natural disasters in the future.

Primary roles of the three participating companies in the Proof of Concept

- NTT: provides the telecom carrier requirements and proposes the Proof of Concept.
- Alcatel-Lucent Japan: provides “CloudBand solution,” a carrier-grade NFV Platform for server virtualisation and orchestration.
- Fujitsu: provides a middleware* that is capable of offering stateful (holding “state” inside the system) VNF[*6] for realizing high reliability, scalability and operation and maintenance technologies.

  * The base of this middleware was developed with the distributed technologies of NTT R&D.

Plans and prospects in the future

The demonstration will be presented at the Bankoku Shinryokan Resort MICE Facility on May 14, 2014. We will work continuously to progress on the research and the development toward the realization of the platform technology that supports various kinds of fields

requiring carrier-grade reliability, scalability and management and the spread and global standardization of the specification through collaboration with other telecom carriers and industry partners.

Terminology

*1 ETSI (European Telecommunications Standards Institute)

An independent, non-profit officially recognized standards organization in the European Union that produces globally applicable standards in the information and communication technology (ICT) field, including fixed, mobile, radio, converged, broadcast, and Internet technologies.

*2 NFV ISG (Network Functions Virtualisation Industry Specification Group)

The Industry Specification Group was established in ETSI in December 2012 and is led by global telecom carriers in order to define the requirements and architecture for the virtualisation of network functions.

*3 the collaborative study

“Collaborative Study on Server Architecture for Future Networks” announced by NTT on February 7, 2014. (http://www.ntt.co.jp/news2014/1402e/140207a.html)

*4 server architecture

The components of a server system, the relationship between server components or between elements inside and outside the server system, and the definition of the components’ behavior.

*5 platform

Hardware, OS, and middleware serving as the foundation necessary to use other types of software or hardware.

*6 VNF (Virtual Network Function)

The virtualisation of a network function in a legacy non-virtualised network.

Trademark

Attachment·Reference

- Figure1: Proposed Proof of Concept ~The Virtual Network Platform as a Service (VNPaaS)~
- Figure2: Details of Proposed Proof of Concept

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